Met Office

NEWS

Climate change impacts June temperature records

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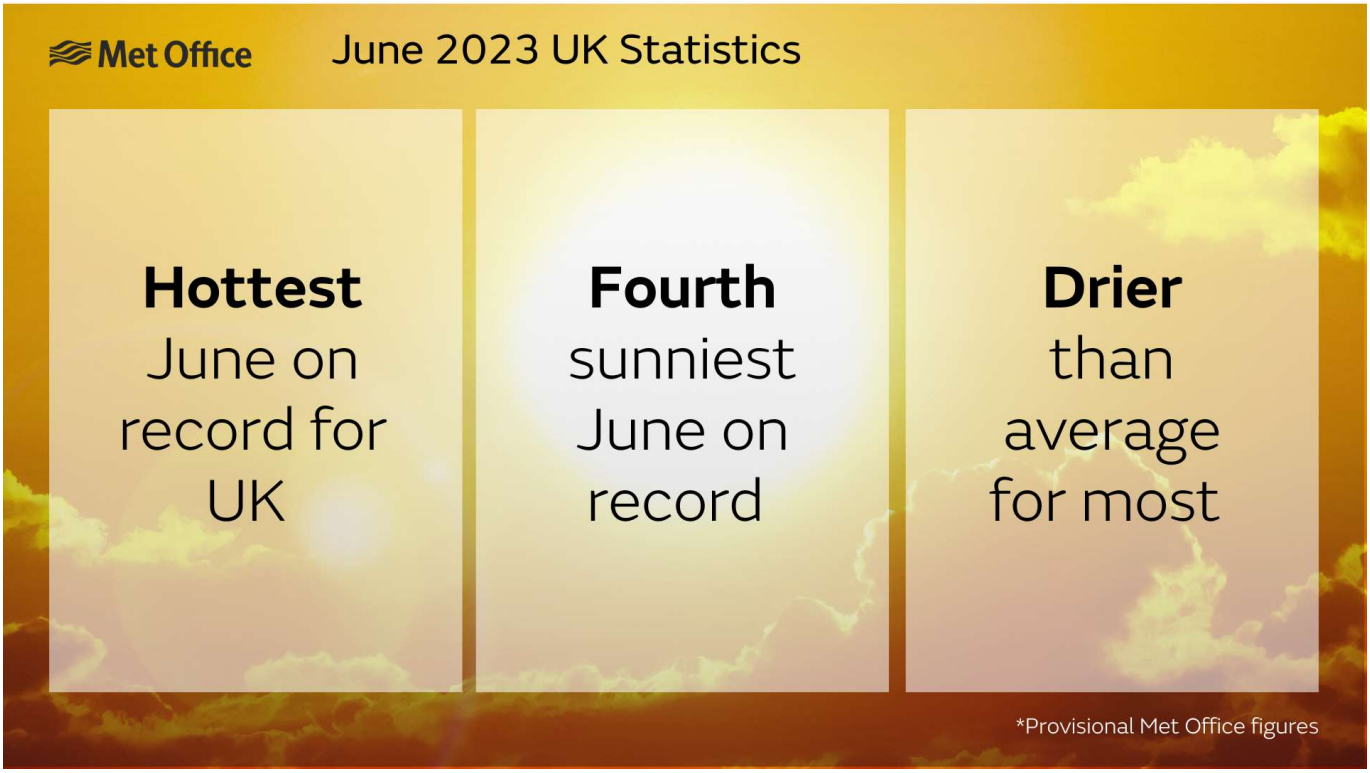
June has been confirmed as the hottest on record for the UK.

According to provisional Met Office figures, the average mean temperature of 15.8°C for June 2023 in the UK is the highest in a series since 1884, with England, Scotland, Wales and Northern Ireland also reporting their respective warmest June on record.

This eclipsed the previous record by 0.9°C, while the previous top three Junes were separated by just 0.1°C.



Fingerprint of climate change

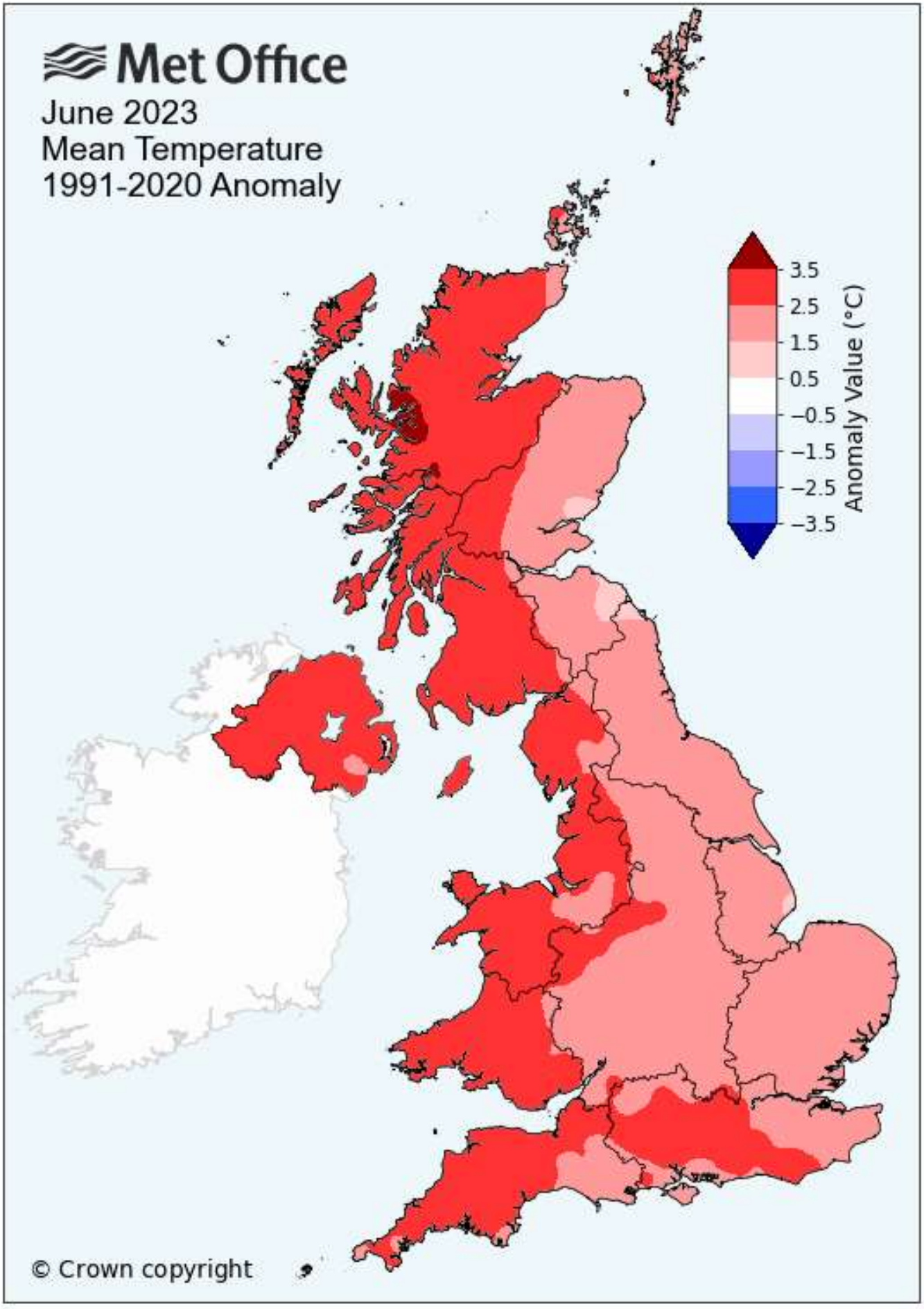
A rapid study by Met Office scientists found the chance of observing a June beating the previous record of 14.9°C, like we have this year, has at least doubled since the period around 1940. The previous record of 14.9°C was recorded in 1940 and 1976.

Paul Davies, Met Office Climate Extremes Principal Fellow and Chief Meteorologist, explains: “We found that the chance of observing a June beating the previous joint 1940/1976 record of 14.9°C has at least doubled since the 1940s. Alongside natural variability, the background warming of the Earth’s atmosphere due to human induced climate change has driven up the possibility of reaching record high temperatures.

“Using our UKCP18 climate projections, we can also see that there is a difference in the frequency of these sort of extremes depending on the emissions scenario we follow in the future. By the 2050s the chance of surpassing the previous record of 14.9°C could be as high as around 50%, or every other year. Beyond the 2050s the likelihood is strongly governed by our emissions of greenhouse gasses, with the chance increasing further in a high emissions scenario but levelling off under mitigation.”

The rapid study used the UK’s climate projections, UKCP18, comparing the chance of surpassing 14.9°C during the period 1925-1955 to that for 1991-2020.

Long-lasting heat



The UK, as well as England, Scotland, Wales and Northern Ireland all recorded their respective warmest June in a series which dates back to 1884, some by a significant margin.

Spurred on by mid-month heat, the UK's mean temperature for June 2023 was 15.8°C, some 2.5°C higher than average.

The Met Office's Mark McCarthy, who works in the team responsible for weather and climate records, said: "It's officially the hottest June on record for the UK, for mean temperature as well as average maximum and minimum temperature.

"June started with a good deal of high pressure and temperatures initially around average for many, but once that subsided, warm, humid air began to influence temperatures, with 32.2°C the highest temperatures reached.

"What's striking is the persistent warmth for much of the month, with temperatures widely into the mid 20s Celsius for many and even into the low 30s at times."

Eight of the twelve calendar months now have an average temperature record set since 2006 in a series which dates back to 1884.

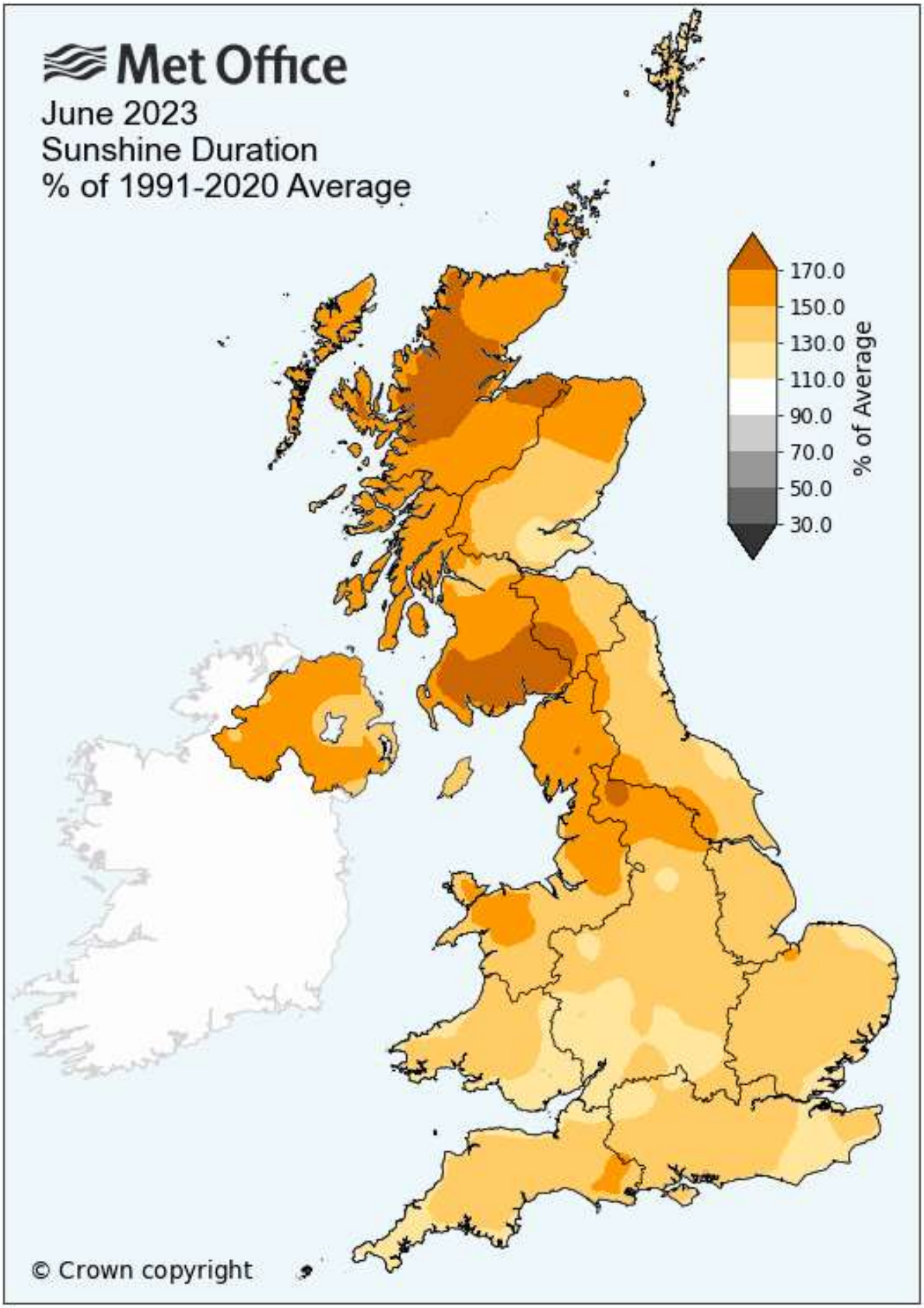
A massive 72 ceremonial counties in the Met Office system recorded their hottest June on record, with many recording mean temperature more than 2.5°C more than average. Counties that recorded their warmest June on record stretched across a large area of the UK, including Orkney, Warwickshire, Surrey, Somerset and Cornwall.

Did the marine heatwave impact temperatures?

The North Atlantic, including waters around the UK, has been experiencing record-breaking temperatures of its own in June, which has played an underlying role in the land-based temperature figures for the UK.

Met Office Scientific Manager Segolene Berthou said: "These settled conditions also contributed to a fast warming of the sea surface around the British Isles: a severe marine heatwave was declared mid-June (NOAA - Category 4). Provisional findings from the Met Office suggest this marine heatwave in turn amplified land temperatures even further to the record levels seen during the month."

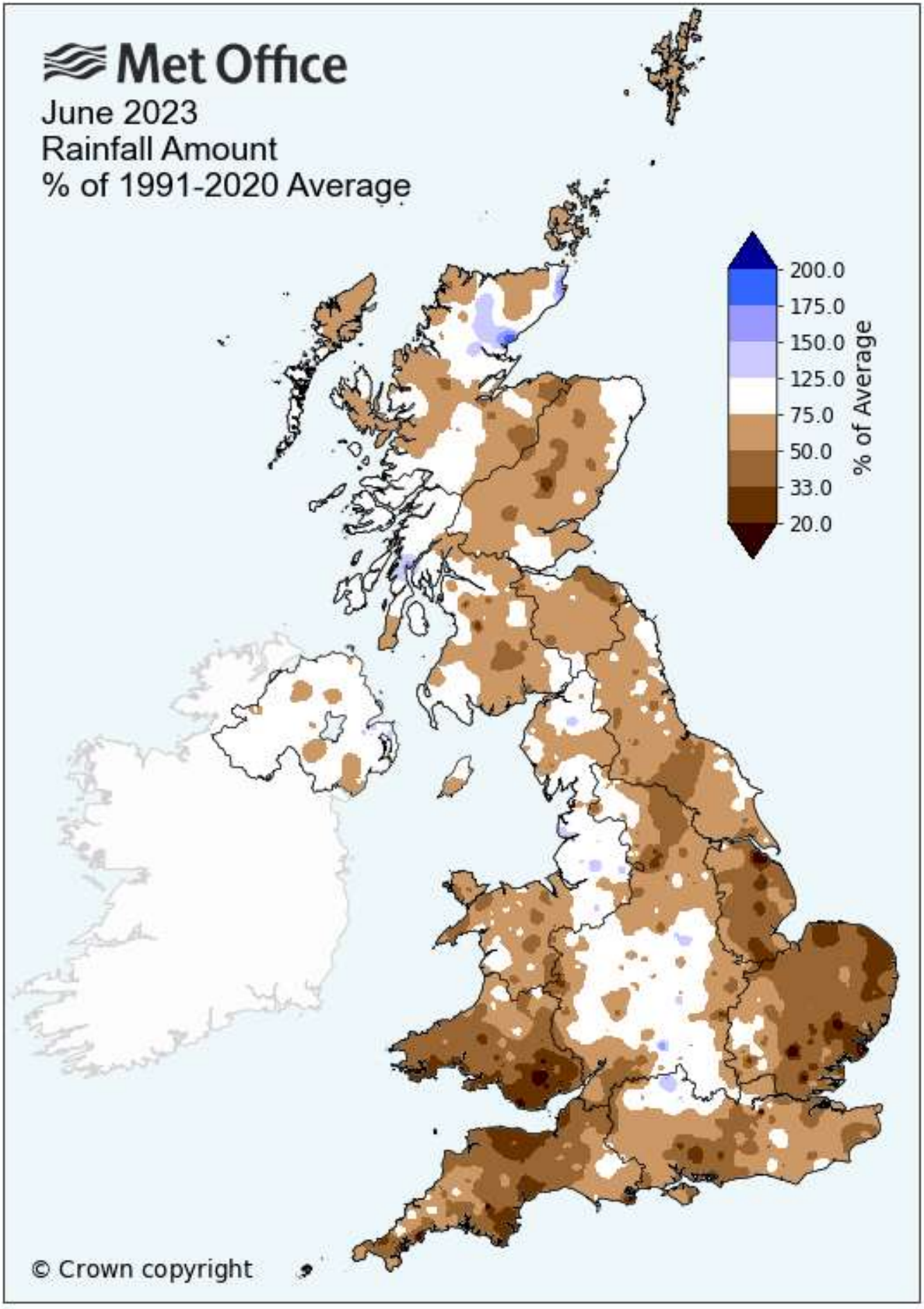
Sunniest June since 1957 for UK



With a period of high pressure helping temperatures to climb, it also created long periods of sunshine for many, with the UK recording its sunniest June since 1957 and its fourth sunniest on record.

Scotland has its third sunniest June on record with 231.4 hours of sunshine. England had its fourth sunniest with 259.8 hours. Northern Ireland had its eighth sunniest on record with 228.7 hours of sunshine, while Wales had its ninth sunniest with 242.8 hours.

A dry month, despite an unsettled end



Rainfall was in short supply for much of June, though totals did climb in the second half of the month. The UK had just 68% of its average rainfall for the month, with 52.2mm of rainfall.

Wales was particularly dry, recording just over half of its average monthly rainfall with 46.7mm (51% of average).

England, Wales, Scotland and Northern Ireland all recorded drier than average months, though not enough to trouble any records.

Provisional June 2023 statistics

	Maximum temp		Minimum temp		Mean temp		Rainfall		Sunshine	
Area	Actual temp (°C)	Anomaly (°c)	Actual temp (°C)	Anomaly (°C)	Actual temp (°C)	Anomaly (°C)	Actual (mm)	Anomaly (%)	Actual (hours)	Anomaly (%)
UK	21.2	3.5	10.6	1.5	15.8	2.5	52.2	68	247.5	144
England	22.2	3.2	11.2	1.4	16.7	2.3	40.8	63	259.8	138
Wales	21.3	3.6	11.2	1.8	16.2	2.7	46.7	51	242.8	136
Scotland	19.4	3.8	9.5	1.6	14.3	2.7	69.2	74	231.4	158
N. Ireland	21.0	3.9	11.0	2.1	16.0	3.0	72.1	89	228.7	152

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